

**Amendment and Response**

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Confirmation No.: 8898

Filed: 10 December 2003

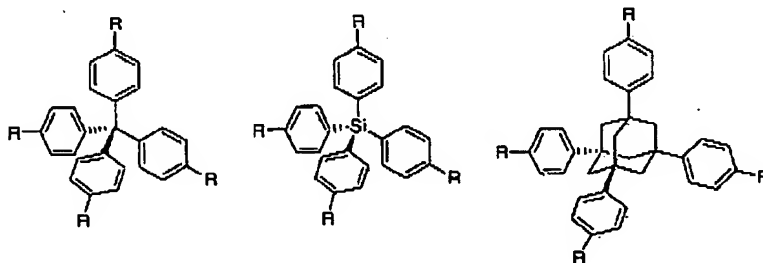
For: METHOD AND MATERIALS FOR PATTERNING OF AN AMORPHOUS, NON-POLYMERIC, ORGANIC MATRIX WITH ELECTRICALLY ACTIVE MATERIAL DISPOSED THEREIN

**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. **(Previously Presented)** A method of making an organic electroluminescent device, the method comprising:

solution coating a transfer layer on a donor substrate, the transfer layer comprising an amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the matrix comprises at least one amorphous, non-polymeric, organic compound selected from



wherein each R is independently a substituent comprising at least one functional group selected from alkenyl, alkenylene, aryl, arylene, heteroaryl, and heteroarylene; and

selectively thermally transferring the transfer layer to a receptor.

2. **(Original)** The method of claim 1, further comprising forming a light-to-heat conversion layer on the donor substrate and wherein selectively thermally transferring the transfer layer to the receptor comprises selectively irradiating the light-to-heat conversion layer with imaging radiation and converting the imaging radiation to heat.

3. **(Original)** The method of claim 1, further comprising forming at least one additional

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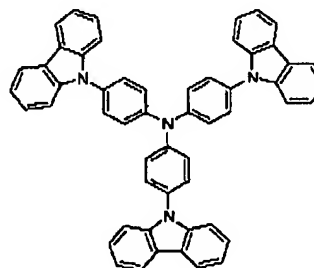
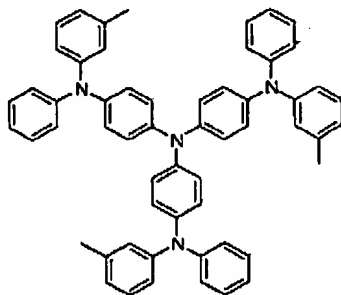
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transfer layer on the substrate and wherein selectively thermally transferring the transfer layer to the receptor comprises selectively thermally transferring the transfer layer and the at least one additional transfer layer to the receptor.

4. **(Original)** The method of claim 1, wherein the light emitting material comprises a light emitting polymer.
5. **(Canceled)**
6. **(Currently Amended)** The method of claim 1, wherein the matrix further comprises at least one amorphous, non-polymeric, organic dendrimer.
7. **(Original)** The method of claim 6, wherein the dendrimer is selected from



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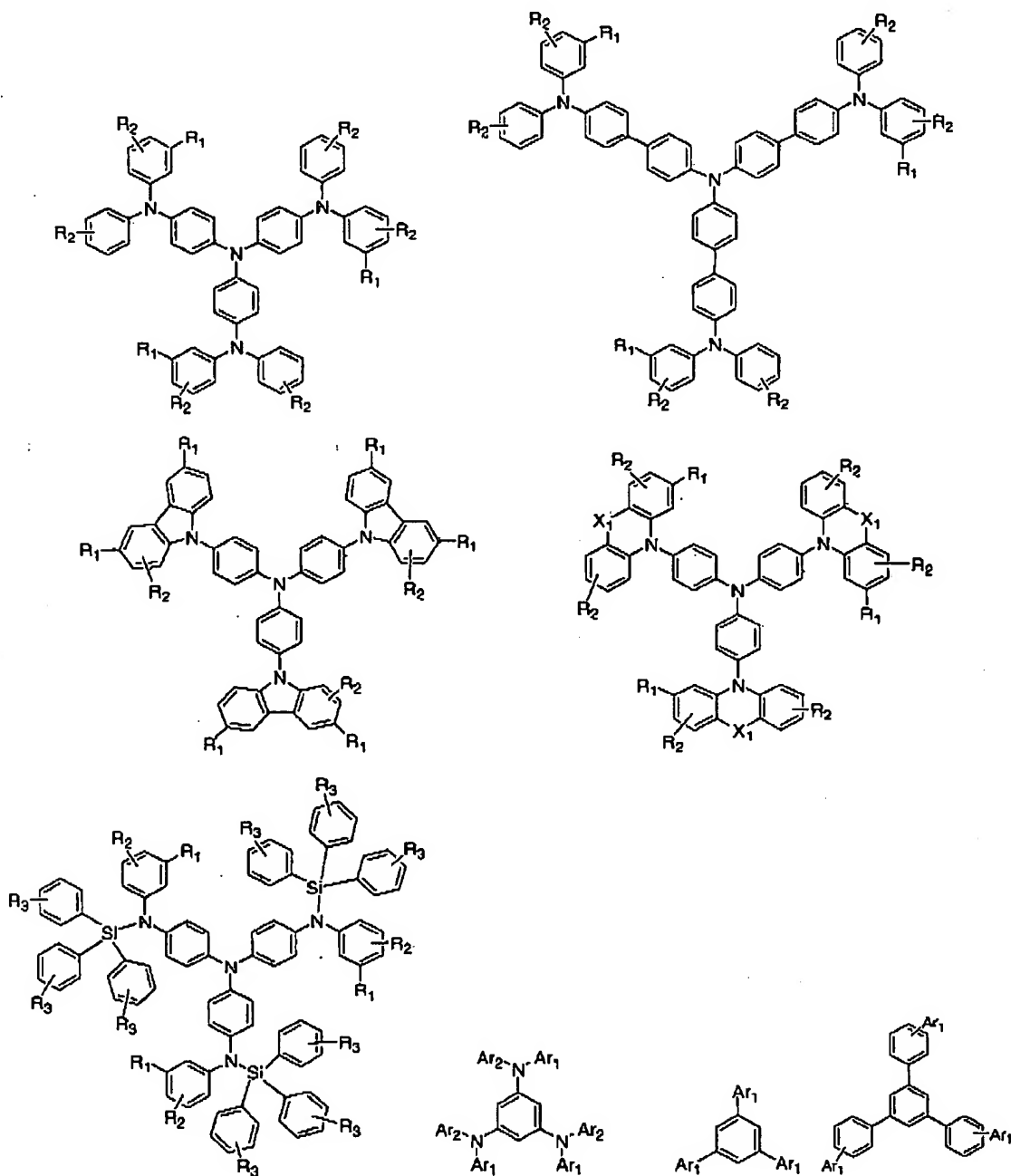
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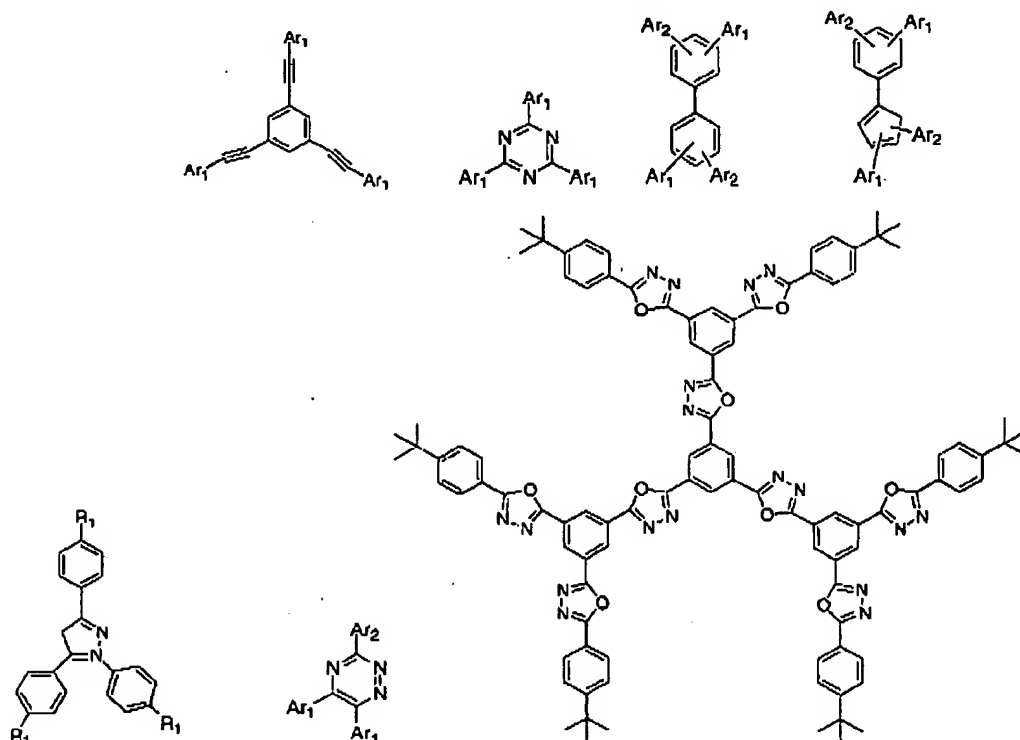
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wherein each  $R_1$  and  $R_2$  is independently H, F, Cl, Br, I, -SH, -OH, alkyl, aryl, heteroaryl, fluoroalkyl, fluoroalkylalkoxy, alkenyl, alkoxy, amino, or alkyl-COOH, each  $R_3$  is independently H, F, Cl, Br, I, alkyl, fluoroalkyl, alkoxy, aryl, amino, cyano, or nitro, each  $X_1$  is independently O, S, Se,  $NR_3$ ,  $BR_3$ , or  $PR_3$ , and each  $Ar_1$  and  $Ar_2$  is independently substituted or unsubstituted aryl or heteroaryl.

8. **(Previously Presented)** A method of making an organic electroluminescent device, the method comprising:

solution coating a transfer layer on a donor substrate, the transfer layer comprising an amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix; and

selectively thermally transferring the transfer layer to a receptor, wherein the matrix

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comprises an amorphous, non-polymeric, organic spiro compound.

9. **(Original)** The method of claim 1, wherein the amorphous, non-polymeric, organic matrix comprises a hole transport material.
10. **(Original)** The method of claim 1, wherein the amorphous, non-polymeric organic matrix comprises an electron transport material.
11. **(Original)** The method of claim 1, wherein a hole transport material or electron transport material is also disposed within the amorphous, non-polymeric organic matrix.
12. **(Original)** The method of claim 1, wherein a ratio, by weight, of the amorphous, non-polymeric, organic matrix to the light emitting material is at least 1:1.
13. **(Original)** The method of claim 1, wherein selectively thermally transferring the transfer layer to a receptor comprises selectively thermally transferring the transfer layer to a receptor comprising a receptor substrate and a plurality of electrodes disposed on the receptor substrate.
14. **(Original)** The method of claim 13, wherein selectively thermally transferring the transfer layer to a receptor comprises selectively thermally transferring the transfer layer to a receptor comprising a receptor substrate, a plurality of electrodes disposed on the receptor substrate, and a hole transport layer disposed on the plurality of electrodes.
15. **(Original)** The method of claim 13, further comprising disposing a plurality of electrodes on a portion of the transfer layer which was selectively thermally transferred to the receptor.

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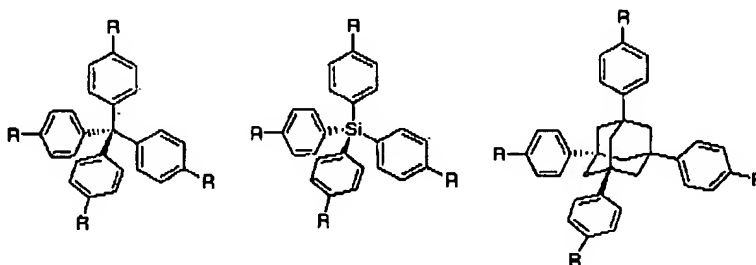
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16. (Previously Presented) A donor sheet, comprising:

a substrate;

a light-to-heat conversion layer disposed on the substrate for converting incident imaging radiation into heat; and

a transfer layer disposed over the light-to-heat conversion layer, the transfer layer comprising a solution-coated, amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the transfer layer is capable of being selectively thermally transferred from the donor sheet to a proximally located receptor, wherein the matrix comprises at least one amorphous, non-polymeric, organic compound selected from



wherein each R is independently a substituent comprising at least one functional group selected from alkenyl, alkenylenc, aryl, arylene, heteroaryl, and heteroarylene.

17. (Original) The donor sheet of claim 16, further comprising forming at least one additional transfer layer disposed over the light-to-heat conversion layer and wherein the at least one additional transfer layer is capable of being selectively thermally transferred with the transfer layer from the donor sheet to a proximally located receptor.

18. (Original) The donor sheet of claim 16, wherein the light emitting material comprises a light emitting polymer.

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19. (Canceled)

20. (Currently Amended) The donor sheet of claim 16, wherein the matrix further comprises at least one amorphous, non-polymeric, organic dendrimer.

21. (Previously Presented) A donor sheet comprising:

- a substrate;
- a light-to-heat conversion layer disposed on the substrate for converting incident imaging radiation into heat; and
- a transfer layer disposed over the light-to-heat conversion layer, the transfer layer comprising a solution-coated, amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the transfer layer is capable of being selectively thermally transferred from the donor sheet to a proximally located receptor, wherein the matrix comprises an amorphous, non-polymeric, organic spiro compound.

22. (Original) The donor sheet of claim 16, wherein the amorphous, non-polymeric, organic matrix comprises a hole transport material.

23. (Original) The donor sheet of claim 16, wherein the amorphous, non-polymeric organic matrix comprises an electron transport material.

24. (Original) The donor sheet of claim 16, wherein a hole transport material or electron transport material is also disposed within the amorphous, non-polymeric organic matrix.

25. (Previously Presented) A method of making a donor sheet, the method comprising:

- forming a light-to-heat conversion layer on a substrate; and

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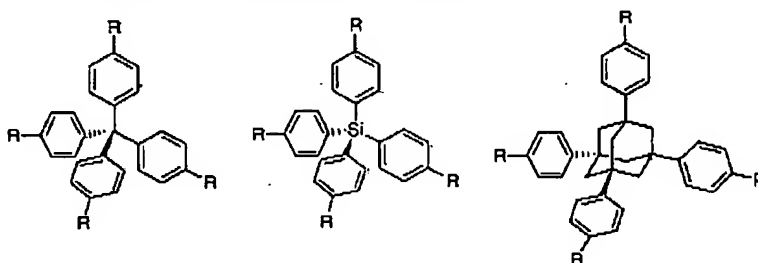
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forming a transfer layer on the substrate, wherein forming the transfer layer comprises solution coating a coating composition on the substrate to form an amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the matrix comprises at least one amorphous, non-polymeric, organic compound selected from



wherein each R is independently a substituent comprising at least one functional group selected from alkenyl, alkynylene, aryl, arylene, heteroaryl, and heteroarylene.

26. **(Previously Presented)** A method of making an organic electroluminescent device, the method comprising:

solution coating a transfer layer on a donor substrate, the transfer layer comprising an amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the matrix comprises at least one amorphous, non-polymeric, organic dendrimer, wherein the dendrimer is selected from



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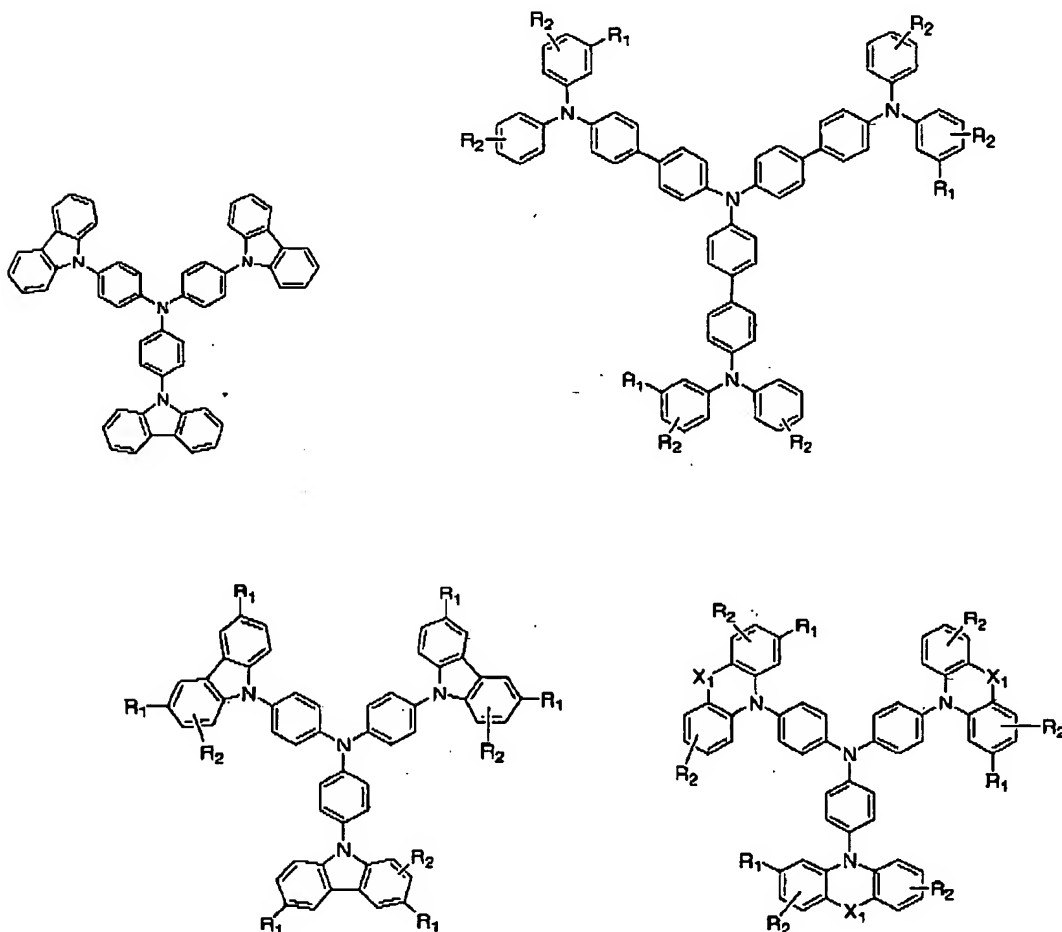
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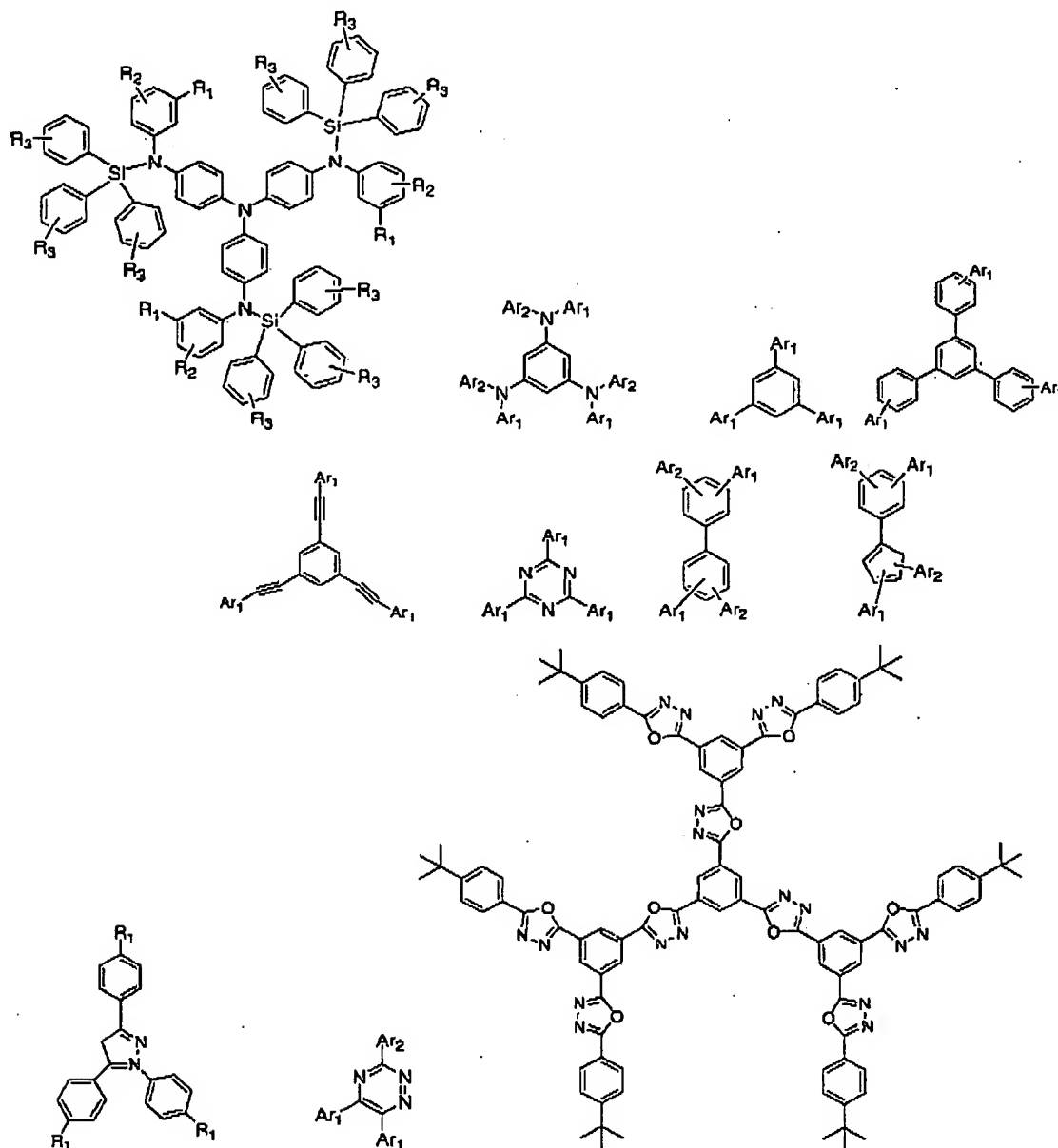
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wherein each R<sub>1</sub> and R<sub>2</sub> is independently H, F, Cl, Br, I, -SH, -OH, alkyl, aryl, heteroaryl, fluoroalkyl, fluoroalkylalkoxy, alkenyl, alkoxy, amino, or alkyl-COOH, each R<sub>3</sub> is independently H, F, Cl, Br, I, alkyl, fluoroalkyl, alkoxy, aryl, amino, cyano, or nitro, each X<sub>1</sub> is independently

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O, S, Se, NR<sub>3</sub>, BR<sub>3</sub>, or PR<sub>3</sub>, and each Ar<sub>1</sub> and Ar<sub>2</sub> is independently substituted or unsubstituted aryl or heteroaryl; and

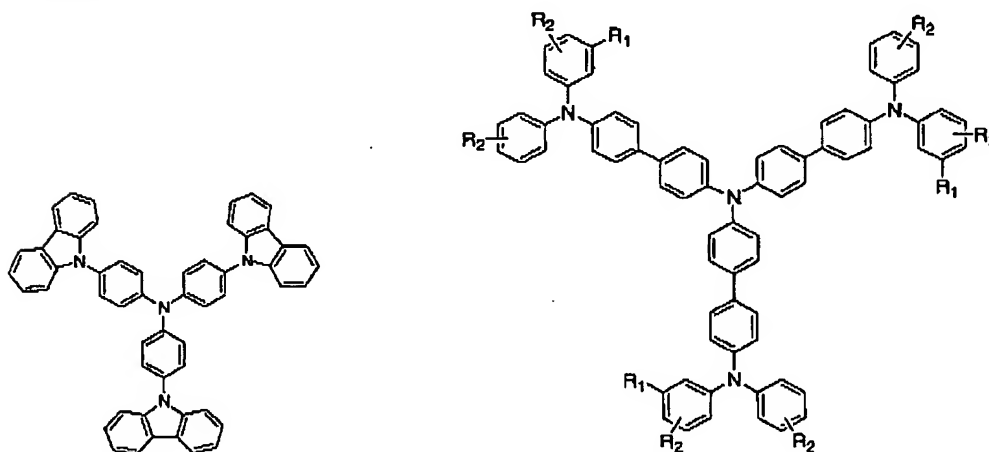
selectively thermally transferring the transfer layer to a receptor.

27. (Currently Amended) A donor sheet, comprising:

a substrate;

a light-to-heat conversion layer disposed on the substrate for converting incident imaging radiation into heat; and

a transfer layer disposed over the light-to-heat conversion layer, the transfer layer comprising a solution-coated, amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the transfer layer is capable of being selectively thermally transferred from the donor sheet to a proximally located receptor, wherein the matrix comprises at least one amorphous, non-polymeric, organic dendrimer, wherein the dendrimer is selected from



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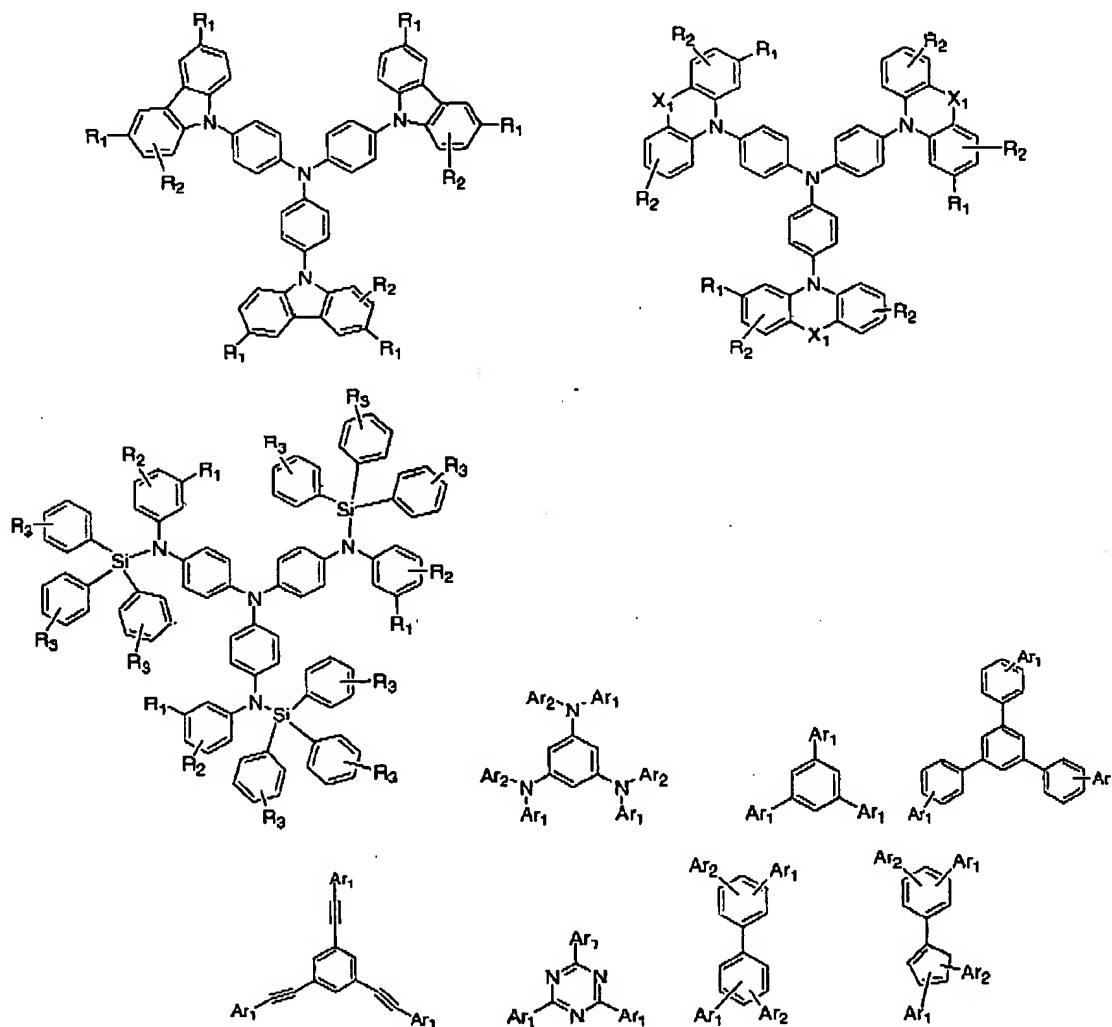
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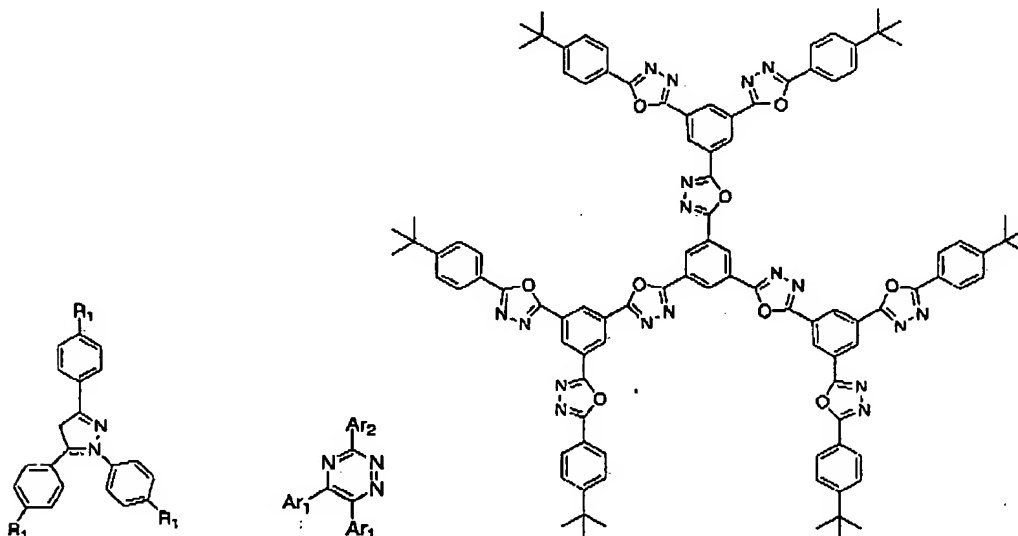
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wherein each  $R_1$  and  $R_2$  is independently H, F, Cl, Br, I, -SH, -OH, alkyl, aryl, heteroaryl, fluoroalkyl, fluoroalkylalkoxy, alkenyl, alkoxy, amino, or alkyl-COOH, each  $R_3$  is independently H, F, Cl, Br, I, alkyl, fluoroalkyl, alkoxy, aryl, amino, cyano, or nitro, each  $X_1$  is independently O, S, Se,  $NR_3$ ,  $BR_3$ , or  $PR_3$ , and each  $Ar_1$  and  $Ar_2$  is independently substituted or unsubstituted aryl or heteroaryl; and

~~selectively thermally transferring the transfer layer to a receptor.~~

28. **(Previously Presented)** A method of making a donor sheet, the method comprising:
- forming a light-to-heat conversion layer on a substrate; and
  - forming a transfer layer on the substrate, wherein forming the transfer layer comprises solution coating a coating composition on the substrate to form an amorphous, non-polymeric, organic matrix with a light emitting material disposed in the matrix, wherein the matrix comprises at least one amorphous, non-polymeric, organic dendrimer, wherein the dendrimer is selected from

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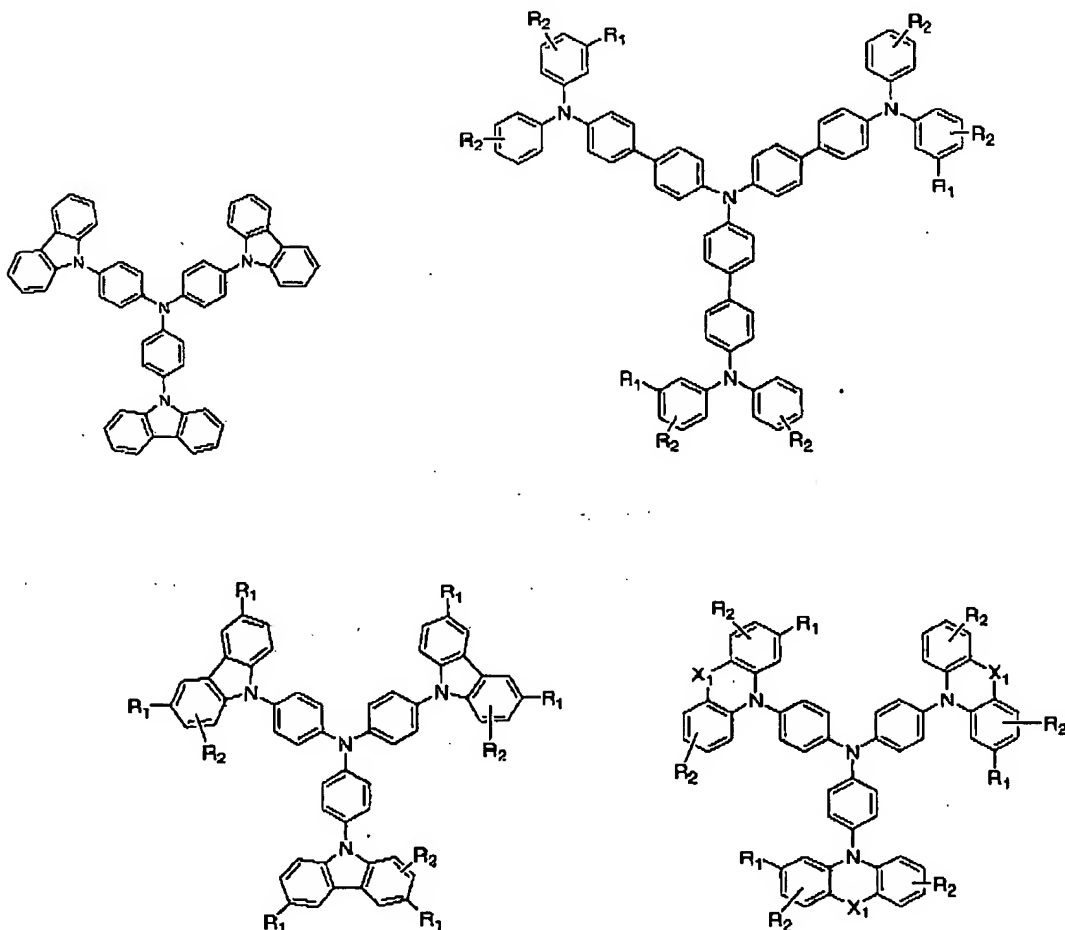
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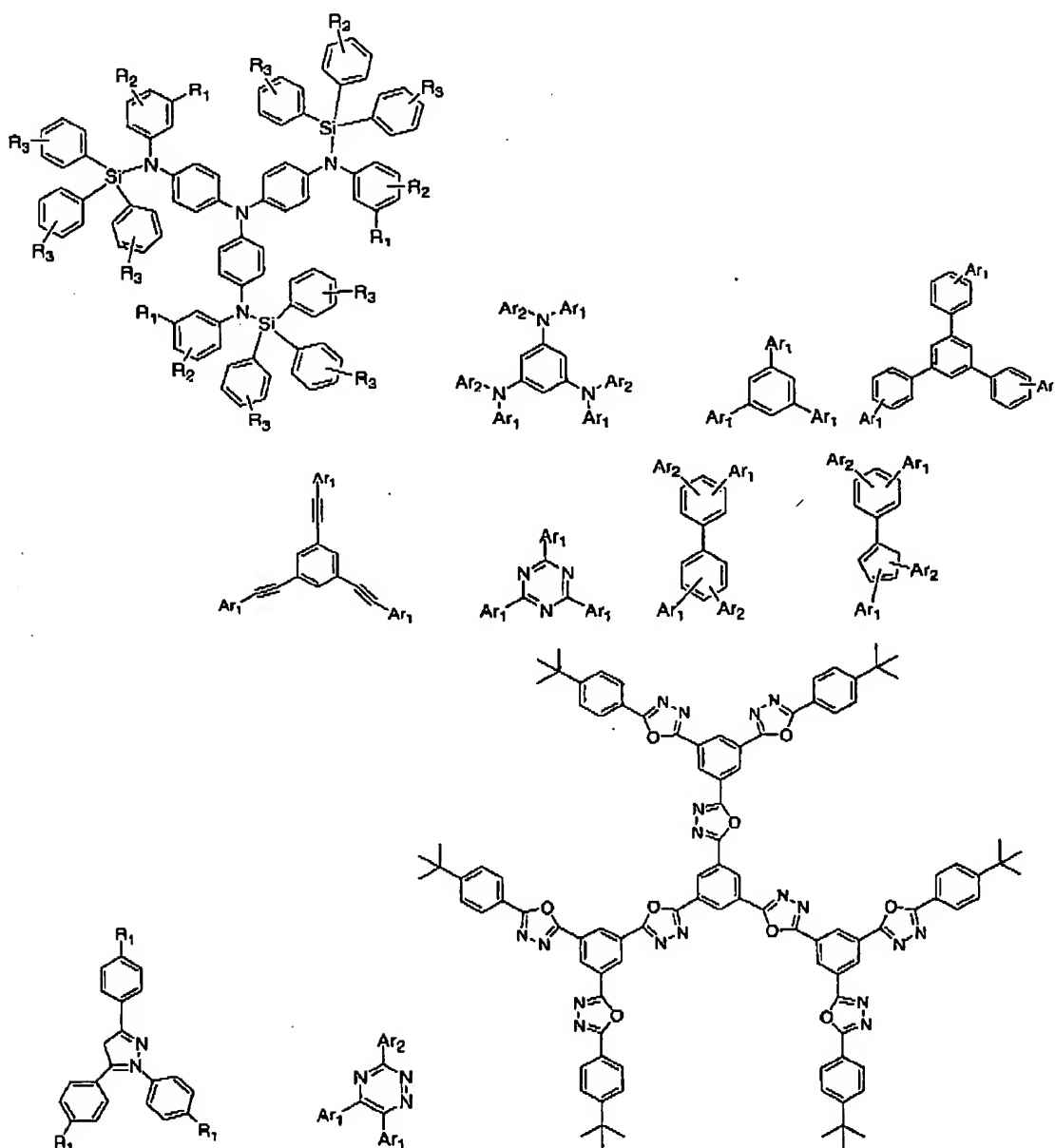
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wherein each R<sub>1</sub> and R<sub>2</sub> is independently H, F, Cl, Br, I, -SH, -OH, alkyl, aryl, heteroaryl, fluoroalkyl, fluoroalkylalkoxy, alkenyl, alkoxy, amino, or alkyl-COOH, each R<sub>3</sub> is independently H, F, Cl, Br, I, alkyl, fluoroalkyl, alkoxy, aryl, amino, cyano, or nitro, each X<sub>1</sub> is independently

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O, S, Se, NR<sub>3</sub>, BR<sub>3</sub>, or PR<sub>3</sub>, and each Ar<sub>1</sub> and Ar<sub>2</sub> is independently substituted or unsubstituted aryl or heteroaryl.